



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5C2/P  
 UNIQUE ID NUMBER: 7CM045  
 COMBUSTOR: SAC  
 ENGINE TYPE: MTF

BYPASS RATIO: 6.8  
 PRESSURE RATIO ( $\pi_{00}$ ): 28.2  
 RATED THRUST ( $F_{00}$ ) (kN): 137.6

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	11.1	56.2	52.6	13.8
AS % OF ORIGINAL LIMIT	56.6	47.6	54.6	63.6
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			68.2	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			82.1	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			93.2	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			110.5	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	1.252	0.00	0.80	29.70	10.7
CLIMB OUT	85	2.2	1.035	0.00	0.70	23.80	8.4
APPROACH	30	4.0	0.342	0.00	2.10	9.30	1.0
IDLE	7	26.0	0.109	5.80	35.10	3.90	1.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			441	986	6278	6240	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				7.2	45.7	45.4	10.7
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.8-98.1
TEMPERATURE (K)	286-295
ABS HUMIDITY (kg/kg)	0.0061-0.0074

### FUEL

SPEC	Jet A
H/C	1.95
AROM (%)	17.3

MANUFACTURER: CFM International  
 TEST ORGANIZATION: CFM56 Evaluation Engineering  
 TEST LOCATION: PTO Site IVD  
 TEST DATES: 04/06/1991-05/06/1991

### REMARKS

1. Ref GE Report R91AEB471 and FAA Certification Report CR-897/P, July 2003
2. Engine S/N 740/105.
3. Core engine Smoke Numbers reported

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)